

## Computed Radiography, e.g. PCR or other imaging plates

### Dose Rate Control setting Optimus

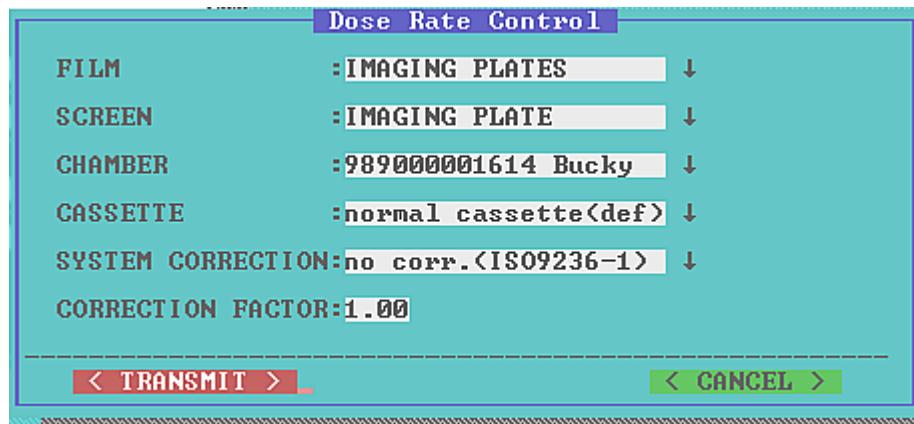
Select:

**Optimus (XRG90) or Optimus C >> Program >> Dose Rate Control >>**

**>> AMPLIMAT >> Chamber 1...5 >> Data Set 1...5 >> DRC Handling: Start Automatic DRC Processing >>**

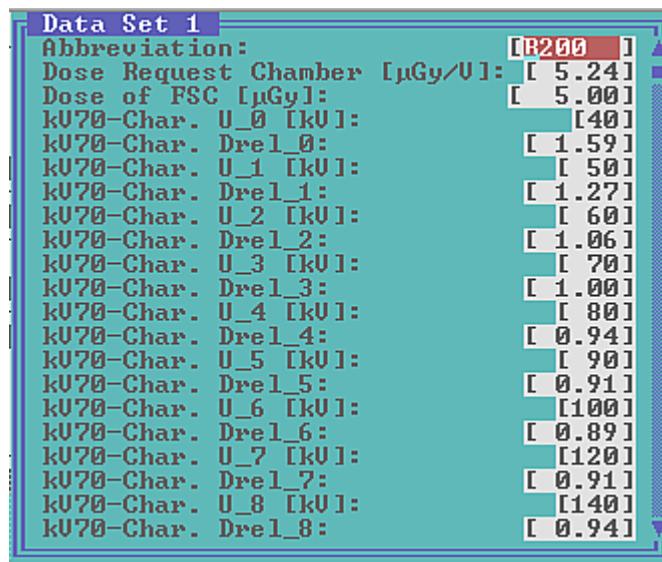
**<OK>**

<b>FILM:</b>	Select from <b>FILM.TDL :</b>	<b>IMAGING PLATES</b>
<b>SCREEN:</b>	Select from <b>SCREEN.TDL :</b>	<b>IMAGING PLATE</b>
<b>CHAMBER:</b>	Select from <b>CHAMBER.TDL :</b>	the installed chamber type
<b>CASSETTE:</b>	Select from <b>CASSETTE.TDL :</b>	normal cassette(def)
<b>SYSTEM CORRECTION:</b>	Select from <b>SYSCOR.TDL :</b>	no corr.(ISO9236-1)
<b>CORRECTION FACTOR:</b>		<b>1.00</b>



Transmit the screen with <F2>.

Call the same Data Set >> DRC Handling: Start Automatic DRC Processing >> again, but now use <ESC> to open the data set screen:



Two data fields can be modified, all others **must not** be changed:

**Abbreviation:** Any name up to six characters can be given. The abbreviation name should indicate the programmed speed type if different speeds shall be used with the same imaging plates.

**Dose of FSC [μGy]:** Use **K<sub>s</sub>** explanation this page. The value can be adapted to the local "density taste".

All other data (kV70-Char. and RLF) **must** remain as they have been calculated during the programming and loading process to obtain the chamber type + imaging plate depending KV characteristic. RLF is constant = 1.

Formula to determine the **speed = S** of a film-screen-combination:

$$S = \frac{K_0}{K_s} = \frac{1000 \text{ } \mu\text{Gy}}{\text{Dose of FSC } [\mu\text{Gy}]} \quad \begin{array}{l} \text{">>> use speed as} \\ \text{">>> abbreviation} \\ \text{">>> name} \end{array} \quad \begin{array}{l} \text{!! } S = \text{speed must not be mixed up !!} \\ \text{!! with } S = \text{sensitivity PCR !!} \end{array}$$

**K<sub>0</sub>** is a constant with a value of 1000  $\mu\text{Gy}$ .

**K<sub>s</sub>** is a variable value principally representing a switch off dose to obtain a density of 1.0 above base and fog, (normal films determined by the manufacturer of a film-screen system for defined processing conditions which are different in a computed RAD system). Can be adapted to the local "density taste"

If e.g.  $K_s = 5 \text{ } \mu\text{Gy}$  (like the example of the previous page)

$$S = \frac{1000 \text{ } \mu\text{Gy}}{5 \text{ } \mu\text{Gy}} = 200$$

Range of **speed values S** within the standard **speed class SC** systems:

only valid for film-screen-combinations for an optical density of 1.0		
Speed class <b>SC</b> Standard	dose / exposure $[\mu\text{Gy}]$ Standard class <b>SC</b>	Speed value <b>S</b> Range
6	167	5 - 9
12	83	10 - 18
25	40	20 - 36
50	20	40 - 71
100	10	80 - 140
200	5	160 - 280
400	2.5	320 - 560
800	1.25	630 - 1100
1600	0.625	1250 - 2200

If different speeds shall be used copy one screen with <F3> and load it to all other data sets of the chamber with <F4>. Change **Abbreviation** names and **Dose of FSC** values accordingly afterwards

More information available in booklet "Radiographic screens and films", manual order No. 4512 980 50592.